

NWIRP/NG Site-March 24, 2015 Quarterly Meeting Agenda (in black) and Meeting Notes (in blue)

1. Status of additional "Hotspot" work by Navy

- Plant 6 Pilot Study

BWD noted that they had received a proposal from the Navy regarding full-scale (24/7) pumping from Plant 6 well 2 that was under review. The Navy would perform the short-term pilot for approximately 3 months and measure the impacts of the prolonged pumping on groundwater flow by installing transducers in many of the upgradient wells. While BWD was encouraged by the Navy's proposal, BWD was concerned that there was not that much time to get things in order for the pilot. One of the open issues was the disposition of the treated water. As described by BWD, the draft contract indicates that the water in excess of BWD's needs will be discharged to a surface facility (probably the same discharge basin used for the GM 38 hot spot). BWD indicated that real time switching of the treated water from distribution to waste was not possible if the pilot were to occur this summer. BWD indicated that their permit did not prohibit 24/7 operation and putting the treated water into the distribution system. They also indicated that they have sampling/analysis of treated water every 20 minutes with alarms to the operator of any problem.

BWD also noted that they intended to take Plant 6 off-line in the fall for about 2 years in order to upgrade the treatment regime to make sure they could handle potentially higher concentrations that could be migrating to the well. This upgrade is being funded by the Navy. While the existing air stripper/carbon systems could handle these higher concentrations, they would likely require more frequent and costly carbon change outs (perhaps monthly at a cost of XX? \$70k?).

- BWD management intends to stop using wells that are screened in contaminated groundwater and intend to shut down Plants 4, 5 and 6. The new supply well within Bethpage State Park is operational and they will start construction of a 2 mmgal underground storage tank this year to minimize the number of wells needed during peak demand. They also have submitted a permit application to DEC to drill a new well into the Lloyd aquifer.

- Additional delineation

The districts were concerned about the length of time it was taking to perform the delineation to date with additional delineation still required; the districts wanted to ensure that additional delineation would occur to identify lower level concentrations (i.e., not just 1 ppm) within the plume. DEC indicated that while the ROD defined a hotspot as concentrations at 1 ppm, treatment can be required for portions of the aquifer that have concentrations at less than 1ppm; the pilot test should provide capture information that could be used to assist in determining which portions of the plume should be targeted for capture. EPA indicated that it had informed the Navy and NG that EPA was interested in addressing portions of the plume that while less than 1 ppm were significantly high such as the 500+ ppb detection just south of the Hempstead Turnpike in monitoring well TT-101D2.

- Plans for addressing contamination not captured by 6-2

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The pilot test at Well 6-2 is intended to measure the potential capture zone under a full-scale pumping scenario for Well 6-2. The Navy is also investigating locations for a stand-alone pump and treat system if Well 6-2 in the event Well 6-2 is not adequate.

- **Disposition of treated water if well 6-2 utilized to capture mass of the hotspot**
BWD does not object to putting the water back into distribution if the County and State health departments approve. However, BWD indicated that they are interested in trying to have all of their public supply wells located outside of the plume at some point in time.

2. Status of NYSDEC/NG enforcement agreement discussions

DEC indicated that there was agreement in principle and expected that the order would be signed ~~they are hoping for the completion of an order~~ by the end of April

3. Status of sentinel well installation

The MWD wells should be completed in the next few months; work was set back by the drilling of loss of integrity of a well when a second well was being drilled, when the second well was drilled into the first. The SPWD wells should be completed by the end of 2015.

4. February 5, 2015 letter from Water Districts

Adjustment of the 1ppm hot spot definition: See notes above.

1,4, dioxane: sampling has been performed in some wells and results are generally below detection with the method that was used which was thought to be around 20 ppb. DEC indicated that ~~it would pursue NG and the Navy regarding routinely sampling for 1,4 dioxane~~ Discussions with the Navy subsequent to the meeting indicate that they are routinely analyzing for 1,4 dioxane at the downgradient wells. Discussions with NG are ongoing.

Perchlorate: It was noted that the PRPs assert that munitions were not manufactured or used at the site. It was also noted that perchlorate can be associated with fertilizers, such as those that may have been used on the golf course or when the area was farmland. Some of the on-site shallow wells have been sampled and indicate low levels of perchlorate. The Water Districts indicated that a fire training area did exist at the NG facility. DEC indicated that it would follow up and ensure that there was some data. DEC has confirmed that there was a fire training area at the Park and some data was collected. DEC is evaluating it again.

Radium 226 and 228: It was noted that naturally occurring radium is detected at low levels in long island groundwater. BWD indicated that it had asked NG to sample the monitoring wells for radium but NG refused. BWD then offered to perform the sampling if NG gave it access to the wells, but NG refused access. DEC indicated that it would follow up and ensure that additional data was collected, either by NG or using state assets. BWD offered to pay for any any analysis.

Update on Navy response to DEC Nov 5 letter: In the Navy's March ~~17, 2015~~ letter to DEC it described future plans for characterizing the hot spot area including the pilot testing of BWD Plant 6-2 described above.

Update on NG response to DEC Nov 2.1 letter: Discussed above.

5. Next quarterly meeting/when to extend invitations to Navy and Northrop Grumman to participate

All parties agreed that it would be beneficial to have the Navy and NG participate in the meetings. EPA reported that Richard Mach (Navy) indicated he could participate in meetings

beginning with the next quarterly meeting and that Ed Hannon (NG) indicated that he would follow up with his attorneys to see if he could participate. Mike Boufis indicated that he may not be able to participate in a meeting if NG attended

6. Other:

Community outreach for drilling work. The districts informed EPA and DEC that ~~from~~ their perspective the outreach efforts on behalf of NG and the Navy were not at all adequate. EPA and DEC indicated that NG and Navy had indicated that they were also frustrated with this aspect of the program and that they had been trying to improve outreach efforts. DEC indicated that the actions described by the Water Districts was unacceptable and if the Water Districts provide specifics that it would follow up with both NG and the Navy ~~and requested that the districts provide DEC with specific examples of issues that had been brought to the districts' attention, so that DEC could raise these as specific discussion points with NG and the Navy.~~

Community outreach at RAB meetings: The districts believe that the format of the RAB meetings is not conducive to effective community interaction. The RAB meetings are Navy sponsored and run meetings. The districts, BWD in particular, receives a lot of inquiries from anxious residents who believe they may be at risk from their public water supply and groundwater contamination in the area. The districts asked EPA and DEC to be cognizant of this and make effort to improve efforts to inform and educate the community. It was decided that DEC would ask the Navy to revise the format of the April 1 meeting so that DEC, the BWD and the Navy could address key community concerns, such as the quality of the public water supply, at the beginning of the meeting.

GM-75 – There was a discussion relative to the hot spot at GM-75 identified in the ROD was never addressed. DEC indicated that during predesign sampling, the levels were significantly reduced, negating the need for installation of a treatment system. H2M indicated that levels exceeded 1 ppm in 2001, 2002 and 2003. After the meeting, DEC reviewed the data and while the levels did exceed 1 ppm in those years, levels dropped precipitously in 2004 and have continued to decrease. Current levels are on the order of 70 ppb.